IOM

working for a healthy and sustainable world

Solvent human exposure database guidance

May 2021

Contents

Database guide

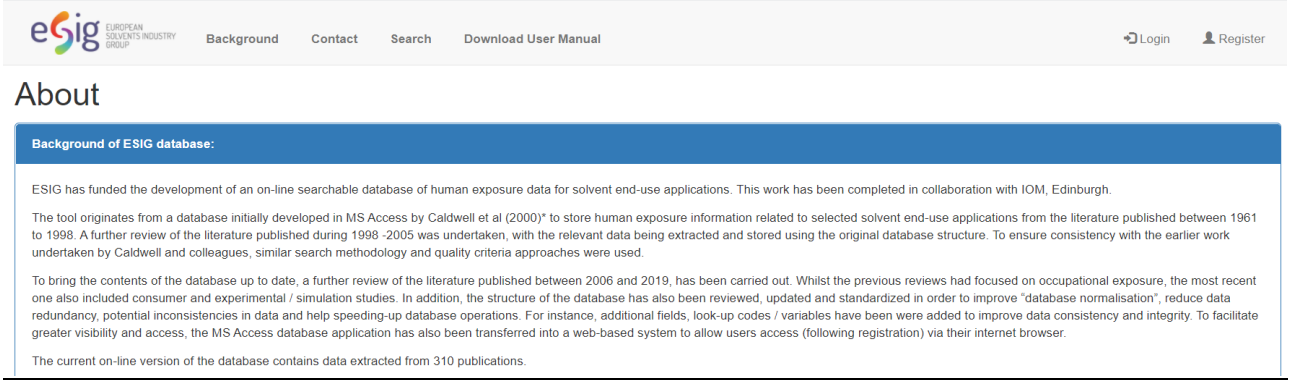
Getting Started

Open any internet explorer (Google Chrome recommended) and open new window

Type https://esig.iom-world.co.uk/ or follow the link from the https://www.esig.org/ website

Home Page will appear with six main tabs on the top menu:

- Background: Brief information about the ESIG database
- Contact: Contact details for general queries and technical support with the system
- Search: Page (requires user login) to search, query, view, print and export citations data.
- Download User Manual: Link to download latest user manual
- Login: Page for registered users to login.
- Register: Page for new users to register.



How to Register

Click on the 'Register' tab from the top menu

Enter all the mandatory details.

Press 'Register'

Once registered successfully, you will be presented with a welcome message and you can start browsing the database.

Notes:

Your username should be same as your email address.

Your username/email should not have been registered before.

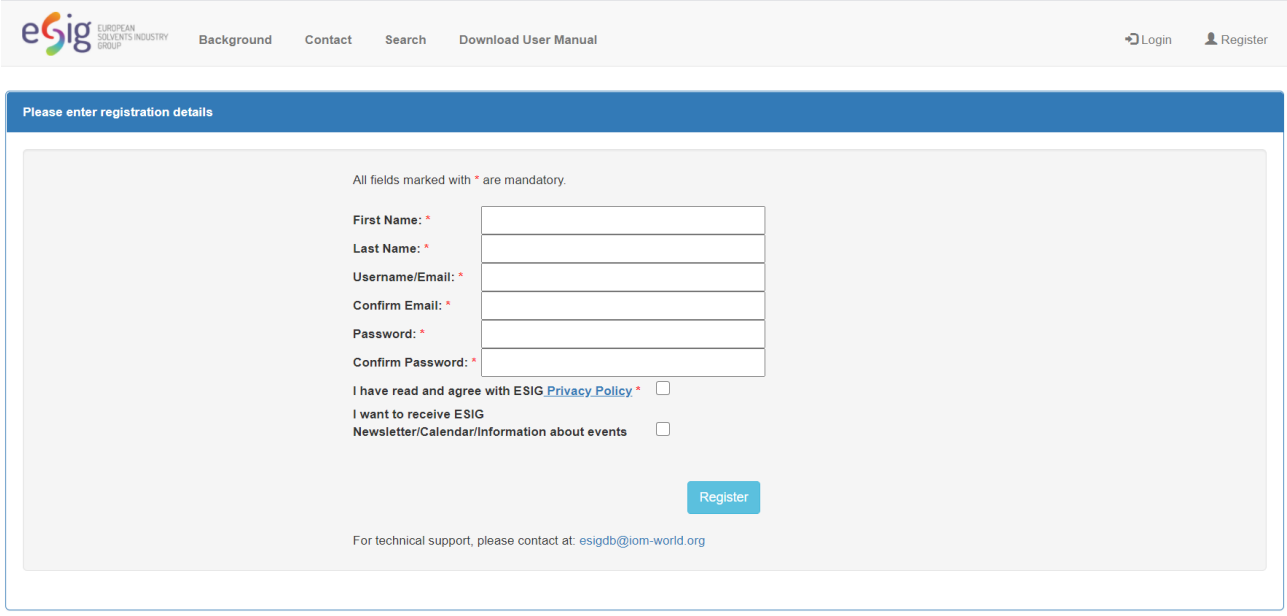
You need to enter email/username twice to confirm it.

You need to enter password twice to confirm it.

Password is case sensitive.

Your actual password is not stored in the system. It will be masked with the password hashing technique which replaces the original password text with a random string.

If you have any issues with registration then please contact the technical support details provided on the page.



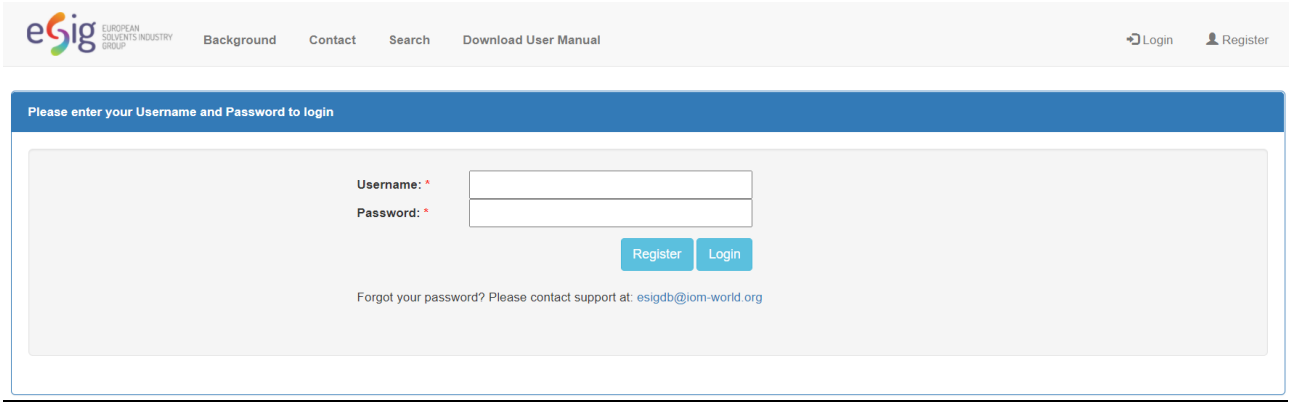
How to Login

Click on the 'Login' tab from the top menu

Enter your credentials email/username and password.

Press 'Login'

You will be directed to search page where you can browse all the records.



Searching and filtering the records

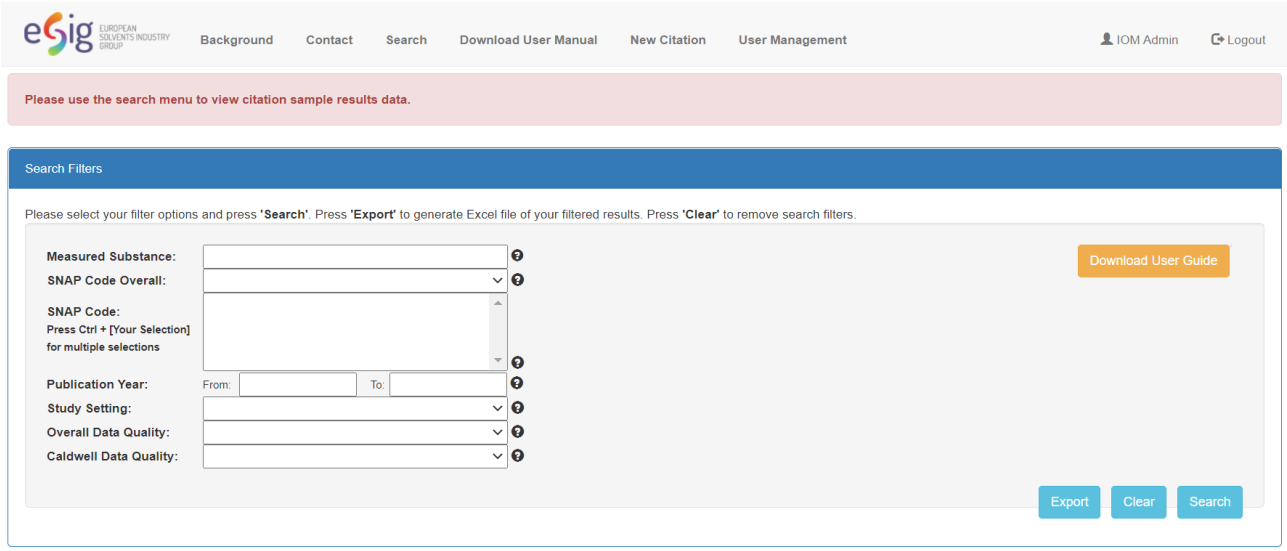
Once logged in, please click on the 'Search' tab from the top menu

You will be directed to the search page with list of all the available citations and option to filter the records.

You can filter the records by following options:

- Measured Substance
- SNAP Code Overall
- SNAP Code
- Publication Year
- Study Setting
- Overall Data Quality
- Caldwell Data Quality

Select you parameters and press 'Search' button to filter the records.



You will be presented with list of all the available records based on your search criteria, with basic details of Citation and Activity.

Press 'Clear' to remove the search/filter criteria.

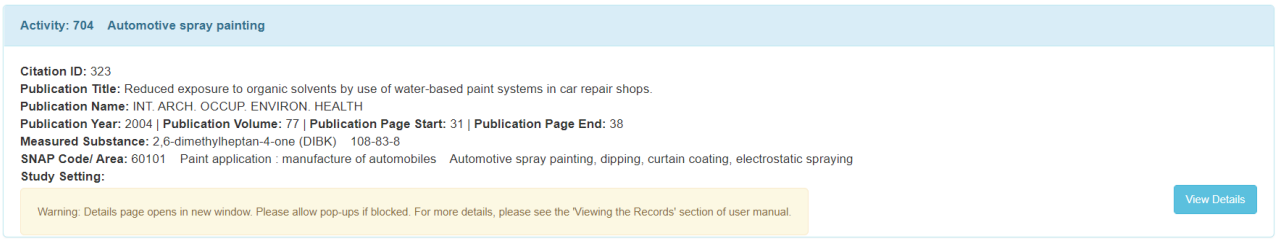
Notes:

Each record/result represents an activity within a citation.

Total number of results found for search operation will be displayed on top.

Viewing the records

To view the searched/filtered records, press 'View Details' button, which is available for each individual record.



This will show Activity page with the following details:

- Citation Details
- Activity Details
- Risk Measurement Measures
- Solvent Products and Solvent Ingredients
- Samples and Sample results

Publication Name: INT. ARCH. OCCUP. ENVIRON. HEALTH

Citation ID: 323
Publication Title: Reduced exposure to organic solvents by use of water-based paint systems in car repair shops.
Publication Year: 2004 | **Publication Volume:** 77 | **Publication Page Start:** 31 | **Publication Page End:** 38
First Author:
Authors List: Bratveit M.; Hollund B.E.; Moen B.E.;
Country: NORWAY | **Country First Author:**
Study Setting: | **Time Period:**
Language:
Study Reason: Exposure Assessment
Abstract: Objective. The objective of this study was to determine to what extent the substitution of solvent-based paint by water-based paint has reduced potential exposure to organic solvents for spray painters in car repair shops. Methods. Full-shift personal air sampling (n=79) was carried out over 3 consecutive days in eight car repair shops. Blood samples on the Monday morning (n=26) and at the end of the shift on the Wednesday (n=26), were analysed for organic solvents by headspace techniques. Results. Toluene was the organic solvent detected at the highest geometric mean concentration in air samples when solvent-based paint systems were used (0.8 ppm), whereas xylene was found at the highest level when water-based systems were used (0.25 ppm). Toluene, isopropanol, acetone and butyl acetate were detected at higher concentrations when solvent- based paint was used than when water-based paint was employed. The additive factor, based on Norwegian limit values, was three-times higher for the painters using solvent-based paint (0.15) than for those using water-based paint (0.05). On Wednesday after shift the geometric mean of toluene in blood was significantly higher for the painters using solvent-based paint (0.044 mug/ml) than for the painters using water-based paint (0.007 mug/ml). There was a significant correlation between toluene in personal air samples and toluene in blood samples taken at the end of the shift on the same day. Conclusions. When solvent-based paint systems were used the additive factor for organic solvent exposure was three-times higher than when water-based systems were employed. The exposure levels of the organic solvents were well below the Norwegian limit values. The significant correlation between the toluene concentration in air and blood samples indicated that the uptake of organic solvents was correspondingly reduced. At the levels of organic solvents presently described the risk of acute and chronic health effects caused by organic solvents is low.
Notes:
Caldwell Data Quality: Fair | **Overall Data Quality:**

Update Print

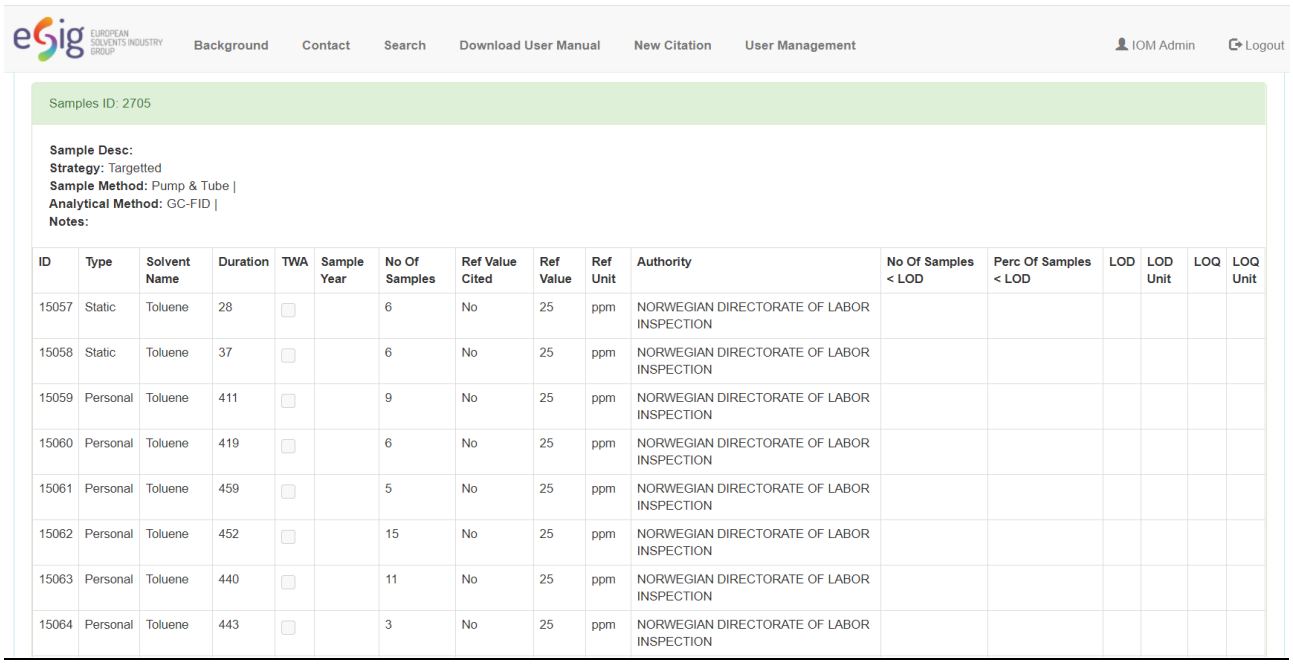
Activity: Automotive spray painting
SNAP Code/Product Area: 60101 Paint application : manufacture of automobiles
Duration Of Activity: | **Number Of Workers:** 29 | **Type Of Solvent Product Used:**
Notes:

Solvents Used:

Solvent Product	Solvent Ingredient	Percentage Range	CAS No	Grouping Low	Grouping High	Notes
PAINT & SOLVENTS	Aromatic Naphtha 60/120		No CAS Available			

Risk Management Measures:

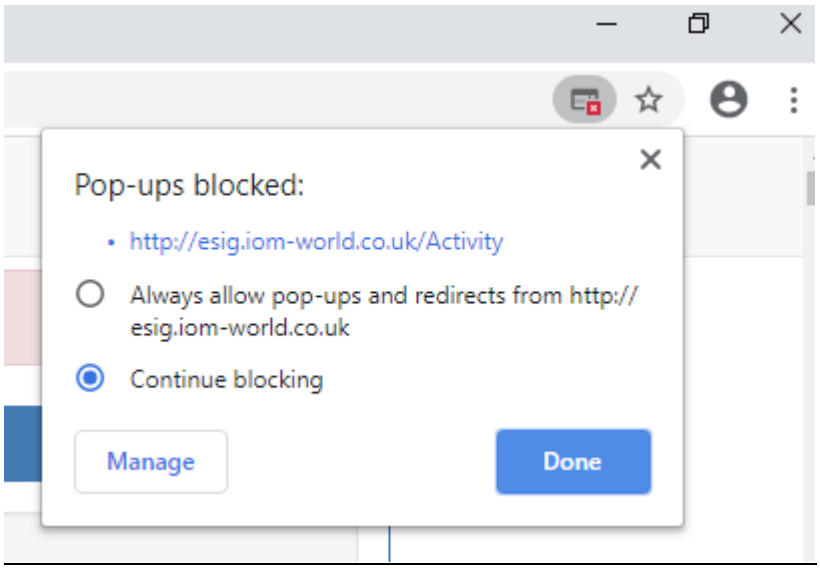
Environment	Ventilation	Engineering Control	PPE	RPE	Notes
		general building ventilation (passive)			
		general building ventilation (mechanical)			
		other (free text)			Spray Booth
			respiratory protection		



ID	Type	Solvent Name	Duration	TWA	Sample Year	No Of Samples	Ref Value Cited	Ref Value	Ref Unit	Authority	No Of Samples < LOD	Perc Of Samples < LOD	LOD	LOD Unit	LOQ	LOQ Unit
15057	Static	Toluene	28			6	No	25	ppm	NORWEGIAN DIRECTORATE OF LABOR INSPECTION						
15058	Static	Toluene	37			6	No	25	ppm	NORWEGIAN DIRECTORATE OF LABOR INSPECTION						
15059	Personal	Toluene	411			9	No	25	ppm	NORWEGIAN DIRECTORATE OF LABOR INSPECTION						
15060	Personal	Toluene	419			6	No	25	ppm	NORWEGIAN DIRECTORATE OF LABOR INSPECTION						
15061	Personal	Toluene	459			5	No	25	ppm	NORWEGIAN DIRECTORATE OF LABOR INSPECTION						
15062	Personal	Toluene	452			15	No	25	ppm	NORWEGIAN DIRECTORATE OF LABOR INSPECTION						
15063	Personal	Toluene	440			11	No	25	ppm	NORWEGIAN DIRECTORATE OF LABOR INSPECTION						
15064	Personal	Toluene	443			3	No	25	ppm	NORWEGIAN DIRECTORATE OF LABOR INSPECTION						

Notes:

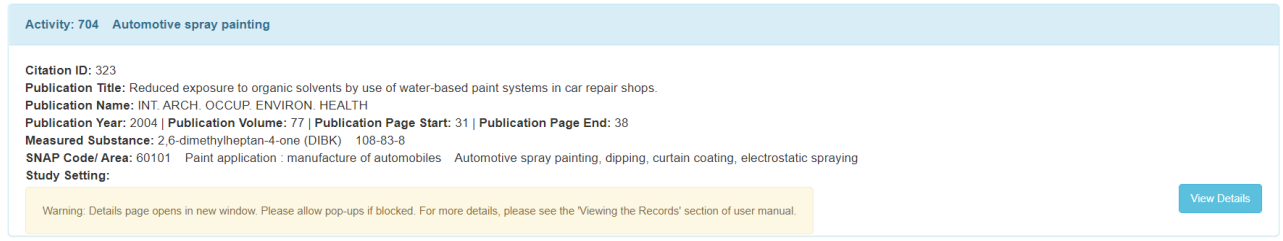
Viewing the activity details opens up a new tab/window on the browser. Depending on your security settings, this may be blocked. To enable viewing details page, please allow pop-ups from this website.



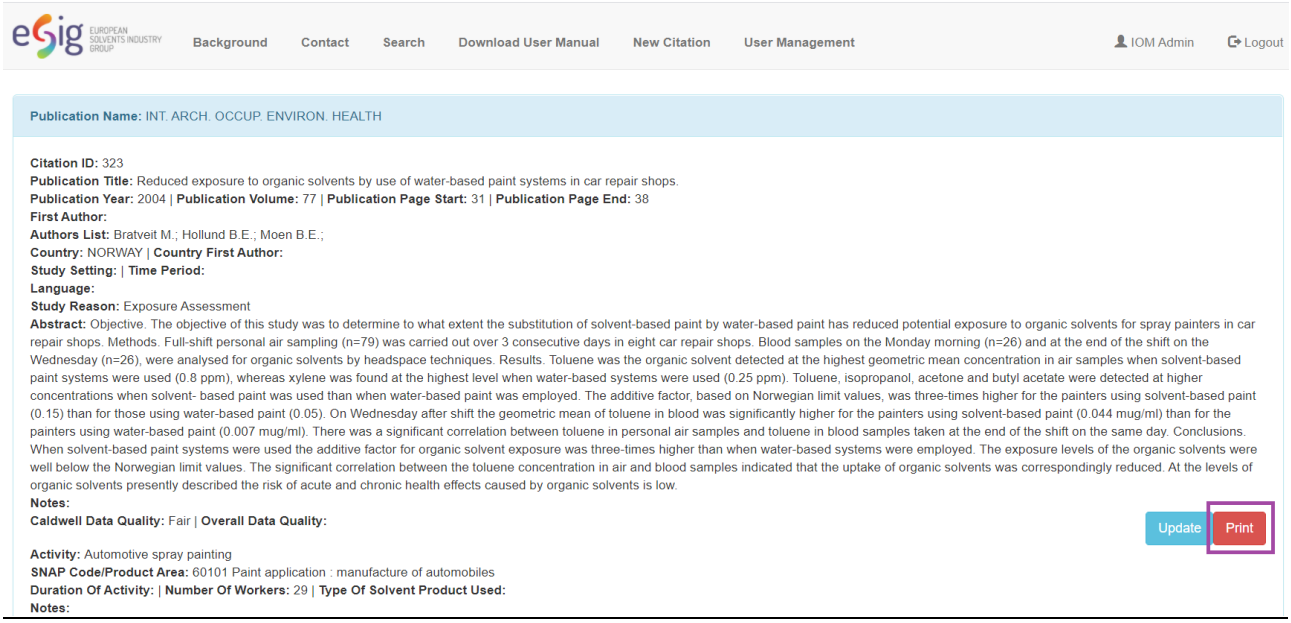
Printing the records

To print the records, please use the filtering options from the search page to filter the records.

Click on the 'View Details' button to view the citation, activity and sample results



Press the 'Print' to print the all the details in PDF format.



This will create a PDF document in your downloads folder (depending on your browser)

Exporting the records

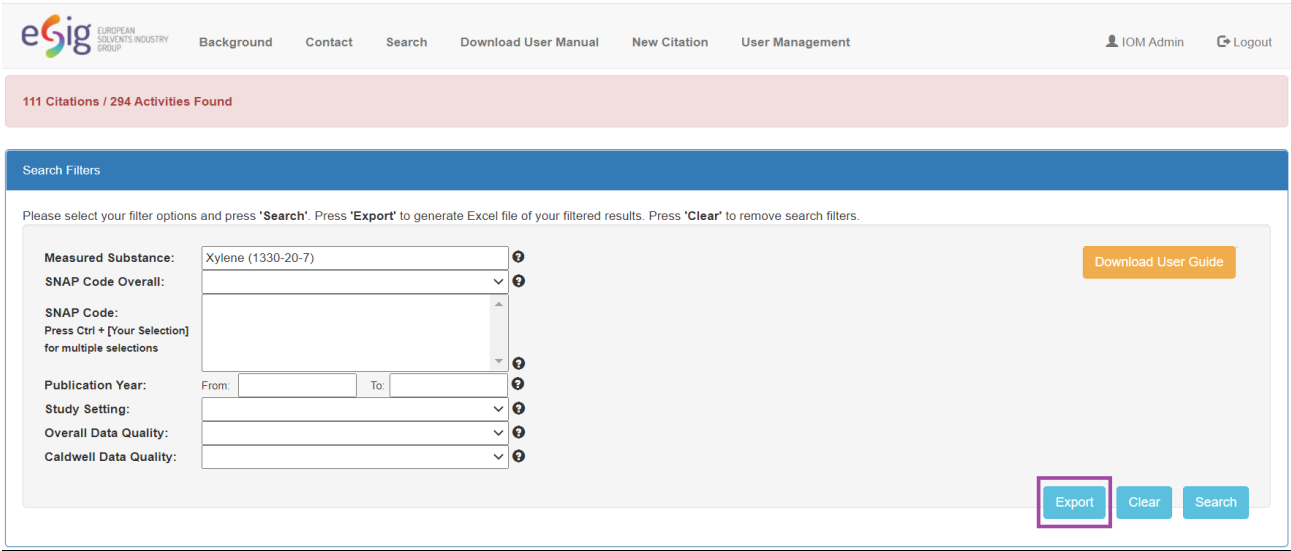
To export the data in Excel format, please go to the search page to filter the records.

You can filter the records by following options:

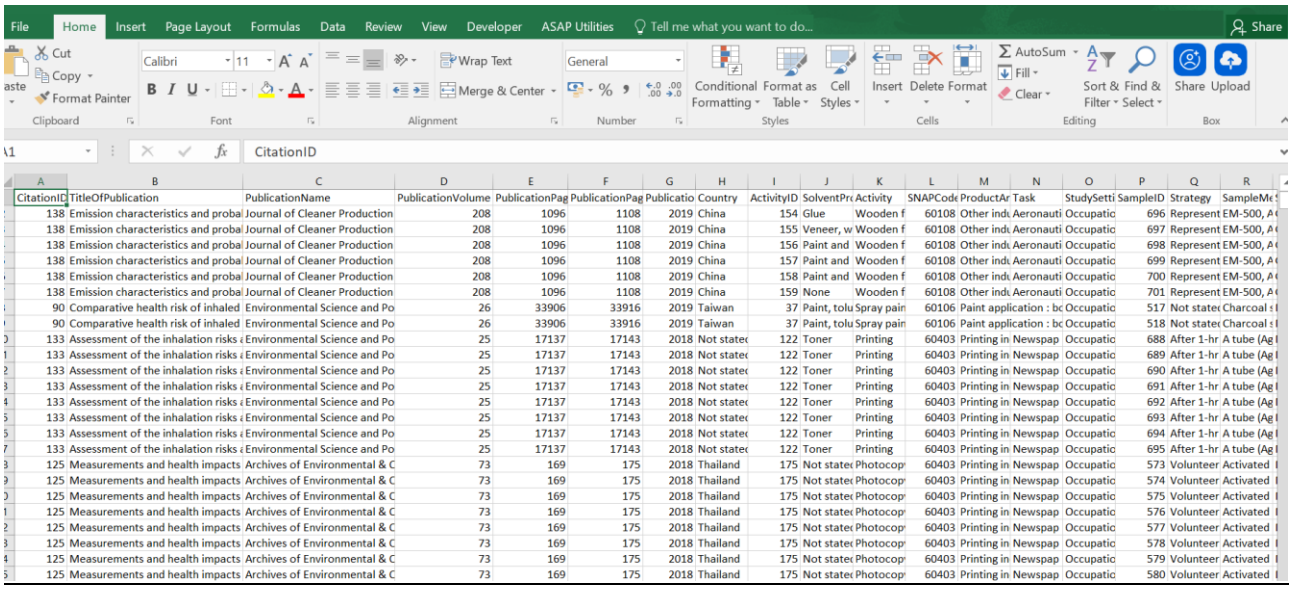
- Measured Substance
- SNAP Code Overall
- SNAP Code
- Publication Year
- Study Setting
- Overall Data Quality
- Caldwell Data Quality

Select your parameters and press 'Search'.

Click on the 'Export' button to export the searched/filtered results in Excel format.



This will create an Excel document in your downloads folder (depending on your browser) with date/time stamp.



working for a healthy and sustainable world

IOM's purpose is to improve people's health and safety at work, at home and in the environment through excellent independent science:

- Research
- Occupational Hygiene
- Laboratory Services
- Nanotechnology Safety
- Training Services
- Consultancy

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